Therapeutic Action of Iodine. The pathological states in which it is employed.—Goitre, scrofula, syphilis, skin diseases, white swelling, caries of the vertebræ, tabes mesenterica, rickets, phthisis, leucorrhœa, amenorrhœa, and chlorosis, cancer, cachexies, dropsy, poisoning, tumours, rheumatism, various chronic diseases, hypertrophy. These are the forms of disease in which, M. Dorvault observes, the administration of iodine is indicated.—*London Medical Gazette*, January, 1851.

13. *New preparation of Phosphate of Iron.*—Dr. Routh recently exhibited to the Medical Society of London two specimens of phosphate of iron dissolved in metabasic phosphoric acid—one in a solid, the other in a fluid state. The compound was prepared by adding as much phosphate of iron as the metabasic phosphoric acid in a boiling state would take up, and allowing it to cool. The proportions would be found, as nearly as possible, two of acid to one of the phosphate. The solution obtained is of a semi-transparent, greenish or slaty hue. If exposed to the air for a day, it hardened; but mixed with liquorice powder or flour, it could be made up at once into pills. The compound was soluble in any proportion of water, and free from any nauseous, inky taste. Dr. Routh had not analyzed it, and could not assert whether it was simply a solution of the phosphate in the acid, or a new superphosphate that was formed. He had given it largely. It appeared to him to be better adapted for and more speedy in bringing about a cure, than other preparations of iron, in some cases of anæmia and debility, brought on by venereal or other excesses, overstudy, and other depressing diseases; in each there was a prevalence of nervous symptoms, and a large quantity of phosphates voided by the urine. It seemed to act on the same principle as cod-liver oil, i. e., as the latter might be considered to supply the amount of carbon necessary for combustion directly to the lungs, thereby checking the drain upon the system, and allowing it to rally from its hectic state; so he supposed the present remedy supplied directly to the brain the amount of phosphorus necessary, to the undue diminution of which the nervous disorder was probably owing. The medicine did not gripe or constipate. He gave it in doses of j or ij grains three times a day.—*Medical Times*, January 25, 1851.

MEDICAL PATHOLOGY AND THERAPEUTICS AND PRACTICAL MEDICINE.

14. *The Chemistry of Tubercle and the Special Pathological Anatomy of Tuberculosis.*—Henry Ancell, Esq., in his interesting lectures on Blood diseases, now in course of publication in the *Medical Times*, makes the following interesting remarks on the chemistry of tubercle, and the special pathological anatomy of tuberculosis:—

"The history of tubercle comprised in my two former lectures contains indubitable proof that this anatomical element of disease is a substance *sui generis*. Its physical, microscopical, and chemical characters show that it differs from every educt or product of nutrition or healthy secretion or excretion, and from all the educts or products, structural or amorphous, of ordinary inflammation. It differs from every other morbid product, non-malignant, malignant, or parasitical. It is essentially neither serum, pus, coagulable lymph, albumen, fibrine, nor any particular texture. At the same time, it is manifestly derived from the blood in an unhealthy condition, and the characters of the product and those of the morbid blood have certain relations which indicate very satisfactorily that the one depends upon the other. The morbid liquor sanguinis, and the deficient and perhaps structurally defective red corpuscles of the blood, are the analogues of the amorphous stroma and defective cells of tubercle; the vitiated albuminous constituent of the plasma is probably the analogue of the caseous constituent of tubercle and even of tuberculous and scrofulous pus; the low vitality of the blood indicated in my diagram is the analogue of the comparatively inorganic quality of the tuberculous product and of the very low degree of organization which it presents. Organic chemistry has taught us thus much; it remains for new researches to develop the essential character both of the morbid condition of the blood and of its product the liquor tuberculi; the discovery of the one will necessarily comprise that of the other. When treating of the general pathology or theory of the disease, the views which have been entertained of its nature will come under consideration. In the mean time, the analyses recorded in the last lecture suggest a few remarks, and the anatomico-pathological facts connected with the diseased state of the blood and the deposit of tubercle, require to be detailed, since no theory can prove satisfactory which is not consistent with these facts.

"As respects the chemistry. In the first place, although variable, there is a much nearer approach to uniformity in the results than might have been expected. We have to bear in mind the very variable circumstances under which tubercle is deposited in the tissues, and collected by the chemist for examination. Its composition undoubtedly varies according to the length of time it has been deposited and the stage of its development. If we were to admit that it is a definite chemical compound, which is very probable, but by no means proved, and is perhaps incapable of proof or disproof, still this compound must be subject to changes and to admixture with numerous materials, as with those composing the tissues, which, by pressure and otherwise, become disintegrated and blended with the essential constituents of tubercle, or with the products of inflammation, as pus or lymph, from inflammation of the parenchymatous structure of an organ, or with mucus and pus from the mucous membranes, or with blood itself. It is always difficult, and frequently impossible, for the chemist to separate these different products, or to estimate their proportions. Tubercle must also, from the same causes, exhibit differences according to the nature of the tissue in which it is deposited.

"Chemical analysis leaves no doubt that tubercle contains a protein compound as an essential constituent, which appears to bear a close analogy to, if it be not identically, casein. This fact is confirmatory, if not demonstrative, of the view taken throughout these lectures, that it is a secretion from the blood, for all the facts of science contradict the notion, that protein compounds are formed in any of the animal tissues, or are derived by those tissues from any other source than the blood. The caseous quality of tubercle and scrofulous pus indicates the presence of casein in the liquor tuberculi, showing that from the liquor sanguinis of tuberculous blood a caseous blastema is exuded, differing, as respects its caseous quality, from the ordinary healthy blastema. Its caseous quality renders it unfit to nourish the tissues, and gives it a tendency to solidification.

"The existence of pyine, regarded as a tritoxide of protein, detected in particular specimens by various chemists, does not, in my mind, invalidate that of casein. It is manifestly by no means a constant constituent. The question will at once arise, whether a peculiar substance may not be the result of inflammatory action on tuberculous blood resulting in the superoxidation of the protein compounds. In this point of view, pyine would be regarded as an inflammatory product superadded to the essential constituent of tubercle; but the chemistry of the phases and complications of tuberculous development is at present so imperfect, that it is scarcely safe to venture even a conjecture upon such a point.

"One of the most interesting facts in connection with the chemistry of tubercle, is the existence of a large proportion of fatty matter. This is the result of a majority of the analyses, and Rokitanski, Gulliver, and Scherer affirm that this constituent increases from the time that tubercle loses its transparency and as the softening process proceeds.

"A most curious fact also was discovered by M. Guillot, which, if corroborated, might ultimately assist us in arriving at a knowledge of the essential nature of tuberculosis. M. Guillot has ascertained experimentally, that the dried parenchyma of those portions of the lung which in phthisis, as also in pneumonia, have become impermeable to the air, contains a very large proportion of fat. In phthisis as much as 40 and even 52 per cent. of fat is said to have been detected in the desiccated tissue of the diseased part of the lung. It further appears, that the proportion of fat in the dried parenchyma of the fœtal lung is diminished, after respiration becomes established, from the proportion of ten or 18 per cent. to 6 per cent., and that in all diseases wherein a portion of lung loses its functional powers, an accumulation of fat takes place in that portion.

"Two explanations have been suggested of this increase of fatty matter in tuberculous or non-respirable lung. It has been held, that the materials of respiration being to a certain extent converted into fatty matter in the blood, preparatory to eremacausis, and this eremacausis taking place in part during the passage of the blood through the lungs, an accumulation of fat takes place in consequence of the lung having ceased to perform its function. It has on the other hand been held that tuberculous matter is essentially composed of a large proportion of fat. According to the latter view, the nature of tuberculosis is diametrically opposite to that suggested by some authors—it is a fatty degeneration.* These facts have to be associated with the frequency of a fatty condition of the liver in tuberculosis, as observed by Louis and others, although other results were obtained by the experiments of Regnaud; and with the effects of cod-liver oil in the treatment of tuberculosis. The whole must be comprised in the consideration of the essential nature and theory of the disease. The excess of fatty matter in tubercle is taken by Dr. Madden to imply a retrograde morphology, and this accords with the views of Dr. Addison, to which I have already adverted.

"Tubercle appears also to contain a great excess of extractives, and, as compared with other proteiniform products, an excess of water. These and its other qualities associate the tuberculous deposit with the vitiated state of the liquor sanguinis, which I formerly described as an essential character of tuberculous blood.

"The analysis of cretaceous masses is one of the most interesting, not to say important, parts of the subject. The uniformity of the results, and the analogy to bone-earth and bone, will strike every one. Moreover, it appears that, after the process of softening, if the tendency of the constitutional and local affection is to quiescence and health, and even before softening, if that tendency exist, the aqueous parts of tubercle must be absorbed. Where this tendency to health and restoration occurs, the analyses also prove another most important fact; the crude tuberculous matter which, in its original state, is probably incapable of resorption, must undergo transformations by which it is rendered susceptible of that process. It is only necessary to consider the large proportion of earthy material which remains in cretaceous tubercles, if these cretaceous masses are justly regarded as the remains of tuberculization, in order to admit this. The quantity of earthy matter aggregated in these masses is a most significant fact. Crude tubercle contains but a very small proportion of earthy salts—say one per cent.—whereas these masses frequently contain ten, twenty, and thirty grains. The deposition and resorption of animal matter, leaving earthy particles behind, must have taken place to a very great extent, or for a very considerable period. It appears to me, that where the tendency to cretaceous aggregation has existed in the highest degree, the blood must have wholly or partially lost its tuberculous quality; and that, after having secreted intractable tubercle, owing to this favourable change it pours out a blastema, which, after depositing its earthy salts, is susceptible of resorption, and is actually absorbed, the earthy particles gradually accumulating in the tuberculous cavity. That some such process as this occurs follows from a consideration of the whole series of chemical facts.

"The ultimate analyses and their reduction into formulary have been regarded by some rather as matter of amusement than of utility. I cannot adopt that view. Whatever the defects of organic chemistry at the present moment, I believe it is gradully elevating medicine into a demonstrative science; and I think it is incumbent on us to regard discovered facts in every point of view. Scherer finds, in one point of view, an excess of carbon and hydrogen in tubercle from the liver as compared with that from the lung; and he thinks this may arise from the deposit in the lung being more exposed to the air. Dr. Glover's analyses give to the protein compound of tubercle in general a smaller per centage of azote than those of Scherer.

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* Compt. Rendus, Juin 12, 1847, Academy of Sciences.

"When it is considered that the blood of probably one-third of the population of Europe is more or less affected with the tuberculous taint, and tuberculous subjects are exposed, equally with the robust and healthy, to the exciting causes of all those anatomical changes constituting the fatal diseases which cut short the life of man, it will be readily understood that the morbid anatomy of tuberculosis might be made to comprise the whole anatomical catalogue. Accurate observation would no doubt show that all the pathological products of disease are more or less influenced by the tuberculous state of the blood. Without extending their researches thus far, morbid anatomists have ascertained, not only the fact of the deposition of tubercle in the organs and tissues as a peculiar morbid element in the tuberculous subject, but the occurrence of other pathological conditions; and the positive increased frequency of various anatomical changes in connection with this disease of the blood, and of the particular forms and varieties which it presents. No part of scientific medicine perhaps does higher honour to the profession than the genius, and depth and accuracy of research and observation, displayed in the minute investigation of the characters and specialties of morbid structure in this disease, as shown in the works of Baillie, Laennec, Andral, Carswell, Louis, Hasse, Rokitanski, and other pathologists."—*Med. Times*, Nov. 16, 1850.

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15. *On Elastic Fibres found in the Sputa of Phthisis.* By Professor SCHROEDER VAN DER KOLK.—The learned Utrecht professor, so well known for his researches into the structure of the lungs, declares that the microscope offers an infallible means of detecting the existence of cavities, by exhibiting in the sputa the presence of the *elastic fibres* which surround the cells of the lungs; and this the more certainly as the cavity is in an early stage of formation, consequently at the very period when such a sign, if to be depended upon, is most wanted. They can be examined under a magnifying power of 200. They are of an arched form, very thin, with sharp borders, and are sometimes covered with fat, which is removable by ether. They must not be mistaken for a species of *conferva*, which very rapidly appears in the expectoration, especially when this contains fat, but which is recognizable by its ramifications terminating in tumefied cells.—*British and Foreign Medico-Chirurgical Review*, January, 1851, from *Rev. Med. Chirurg.* vol. viii. p. 222.

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16. *Is Fibre an Essential Element in the Structure of Cancer?*—Much difference of opinion still exists as to what are the parts of a cancerous growth which are essential to it, and therefore the following observations on the subject by Dr. REDFERN (*Monthly Journ. Med. Sci.* December, 1850), are worthy of attention:—

"Professor Bennett states that fibres, cells, and a viscous fluid, are the three essential elements of a cancerous formation. Lebert regards the cancer-cell as the only distinctive, constant, and essential element, the predominance of one or other of the accidental and secondary elements determining the varieties of form and appearance; yet he regards the fibres as next in point of importance and frequency, and speaks of them in encephaloma as pale, fine, and in small quantity. Müller says that the fibres of encephaloma are indistinct, and that the fusiform cells are arrested in their development into fibres;—whilst Vogel states, that in encephaloma fibrous structures are wholly absent. As has been before remarked, it is excessively difficult to state whether the fibres which are found in many tumours are really cancerous, or whether they belong to the proper structure of the organ in which the tumour has been developed; and, consequently, careful examinations of cancerous formations in organs which contain no fibrous tissue in their healthy state, become of extreme importance in leading to a true determination of the mode of development and actual position of the fibrous element in cancer.

"From the examination of the cancer of the brain here recorded, and of numerous cases of encephaloma, I am led to believe that fibres are by no means invariably to be found in such growths, and that their fibrous element is accessory and non-essential. If this be so, the existence of fibrous tissue in most cancerous structures remains to be accounted for in either of two ways—viz., by hypertrophy of the normal fibrous tissue of the part, or by a new development of fibre from the recently diffused blastema—a development commenced and completed under the influence of the determining energy exerted by the fibrous tissue of the part itself, agreeably to the law of analogous formations. Presuming that the fibrous element of cancer is developed in either of the methods just indicated, its absence in cancer of the brain is readily accounted for, as in that organ there is no fibrous tissue to acquire an unusual development, or to determine the formation of new tissue of its own kind from cells. *If* proper *cancer cells*, of a fusiform shape, *ever become transformed into fibres*, their presence in cancer of the brain, unaccompanied by the fibrous element, may be owing to a deficiency of the stimulus necessary to insure such development, and may possibly be dependent on the absence of fibres in the original and healthy texture of the organ.

"In conclusion, I would suggest that a carefully conducted statistical inquiry into the relative amounts of the various elements of which cancerous deposits are composed, viewed in connection with the normal structure of the organs in which each one is found, would be of great service in the further examination of this difficult problem, and that it might perchance lead to its satisfactory solution."

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17. *Value of a Chemical and Microscopical Examination of the Urine as a means of Diagnosis in Renal Diseases.*—Dr. Geo. Johnson makes the following just remarks on this subject in an interesting paper in the *London Journal of Medicine* (Feb. 1851):—

"None," he says, "but those who have paid much attention to the diseases of the kidneys, and to the means of distinguishing one form of disease from another, can form an estimate of the true value of the information to be derived from a chemical and microscopical examination of the urine. It may safely be affirmed, that a microscopical examination of the urine is, in general, as necessary for the formation of a correct opinion in cases of renal disease, as a physical examination of the chest is for the exact diagnosis of diseases within that cavity. To determine the true nature of a disease in the kidney, and to form a probably correct judgment as to its course and termination, it is not sufficient merely to ascertain that albumen is present in the urine, that the specific gravity of the secretion is abnormal, and that moulds of the uriniferous tubes may be detected by the microscope. These signs may each and all be present in a given case; but a more precise examination of the circumstances is necessary for the formation of a correct diagnosis. The mere enumeration of these signs, such as is very commonly given in reporting cases of renal disease, will as little enable a practitioner to ascertain the true nature of disease in the kidney, as would a simple report of a patient having cough, with dyspnœa, expectoration, and a sound produced by the mixture of air and liquid in the air-tubes, suffice for the exact diagnosis of disease in the lung. In both instances, the signs must be exactly observed, and correctly reported; otherwise no sound opinion can be based upon them.

"It is well known that diseases of the kidneys are amongst the most frequent of those which destroy life, and that some forms of renal disease are curable, while others are almost certainly fatal. In many of the most obvious circumstances, all the forms of renal disease are alike; and it is only by a careful attention to differences, which, however minute, may yet be readily and certainly appreciated, that we can hope to distinguish one disease from another, or to give a confident opinion as to the probable course and termination of a case.

"The microscopical examination of the urine is much facilitated by placing it in a conical glass, which will contain about three or four ounces. The fluid should be allowed to stand for a few hours before examination. I usually put it in the glasses at night, and examine it with the microscope on the following morning. This delay is not necessary if the sediment is abundant; but in many cases, when the sediment is small in quantity, it is quite essential that time should be allowed for its deposition to take place. A small quantity of the lower part of the liquid should then be removed with a pipette, and placed in a shallow cell for microscopical examination."

18. *Cases of Renal Disease.*—The following cases are related by Dr. GEORGE JOHNSON, *London Journal of Medicine* (Feb. 1851), with a view of elucidating the diagnosis and prognosis of some varieties of renal disease:—

CASE I.—*Acute Desquamative Nephritis—Urine very scanty, and highly Albuminous, with Epithelial Casts—Epileptic Convulsions and Coma—Recovery.* I was called to see Ann Fers, æt. 54, as a dispensary patient, on the 6th Dec., 1849. I found her in a state of semi-stupor, and learned that she had been seized with a convulsive fit in the night. She had a wild, distracted look. The tongue was brown and dry. I subsequently learnt that, during the preceding six or seven months, she had lived very badly, in consequence of her husband being out of work. She had gradually become weak; and had restless nights, with frightful dreams, and spectral illusions. About a fortnight before I saw her, she had become much worse, with vomiting, intense headache, slight general dropsical swelling, pain in the back, and very scanty secretion of urine. She was ordered to have six leeches applied to the temples and to take three grains of calomel every four hours.

In the course of the evening some urine was obtained. It had an abundant precipitate of lithic acid, and contained numerous *casts of tubes with entire cells of renal epithelium*;* when boiled, it became almost solid with albumen.

December 7th. In the morning of this day she was much the same. There had been no return of the convulsions; she had the same wild and half-conscious expression of countenance; there was frequent vomiting. Eight ounces of blood were ordered to be taken, by cupping, from the lumbar region: two pills of colocynth and calomel to be taken immediately, and an effervescing draught every four hours.

December 8th. She was better; and said she was much relieved by the cupping; complete consciousness having returned soon after the operation. She had some sleep in the night; but was disturbed by horrid spectral dreams. Bowels freely opened; urine more abundant and clearer; still some vomiting; tongue less dry and cleaner. To take a mixture of sulphate and carbonate of magnesia three times a day.

From this time she steadily and progressively improved. The urine became more abundant; and all cerebral symptoms disappeared.

January 3, 1850. She began to take sulphate of iron with quinine three times a day. At this time the urine had a specific gravity of 1010; it was pale, abundant, contained a very few casts, entangling disintegrated granular particles of epithelium, the casts being of *small size:* albumen was still abundant.

February 4th. The urine had much the same characters. She was still pallid and feeble. The steel and quinine were continued.

March 7th. The quinine was omitted, and the dose of sulphate of iron was increased to two grains, with infusion of quassia, three times a day.

During the month of March she became much stronger, and in every way better. She gained flesh; and her face lost its pallor, and assumed a healthy hue. Towards the end of the month the urine was free from all trace of albumen, and contained no casts, nor renal epithelium. She remained under observation some weeks after this: her health continued good, and her recovery was complete.

REMARKS. I reserve my remarks on the diagnosis and prognosis in this case, until I have referred to some other cases, with which it may be compared and contrasted. With reference to treatment, I have found in other cases of acute desquamative inflammation of the kidney, that cupping in the lumbar region has afforded the same immediate relief to the cerebral symptoms which was so striking in this case. There is no remedy in which, under the same alarming circumstances, I have an equal degree of confidence; and I feel assured that the abstraction of a small quantity of blood by cupping, from the region of the kidneys, is much more efficacious in removing cerebral symptoms than any treatment directly applied to the head. In all cases of acute renal disease, whether occurring as a consequence of scarlatina, or from any other cause, when the urine is very scanty, and the patient complains of severe headache and drowsiness, there is much reason to fear that these symptoms may be followed by convulsions and coma; and unless the earlier symptoms are checked by a rigidly low diet, free purging, and the use of diaphoretics, no time should be lost in applying cupping-glasses with the scarificator over the kidneys. The congestion of the renal blood-vessels is by this means lessened, the secretion is quickly increased, and the blood being thus purified, the cerebral symptoms are directly relieved. It must always be borne in mind, that an imperfect elimination of the urine will impoverish the blood more than the abstraction of a moderate quantity from the vessels, and that an attack of convulsions, if it do not end in fatal coma, may produce greater injury in the brain than all the powers of nature or of art can repair.

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* It is proposed to call casts of this kind "epithelial casts."

CASE II.—*Occasional attacks of Gout—Chronic Bronchitis—Urine Albuminous, and containing Granular Casts—Death preceded by Convulsions—Chronic Desquamative Nephritis.* Benjamin Hobday, æt. 47, a waiter, with sandy hair and pallid skin, was attended by me as a dispensary patient in January, 1847. Was in the habit of drinking freely, and had several times had gout. About three months before I first saw him his wife had observed that his abdomen became tumid and his face rather puffy; this soon subsided, and there was no subsequent appearance of dropsy.

This present illness began six weeks before I saw him, with cough and mucous expectoration. There was large crepitation over both sides of the chest. He was losing flesh; he always appeared dull and heavy; and his tongue was dry and brown. He took an antimonial mixture without relief. The urine was scanty and high coloured; it contained a small quantity of albumen, and numerous *dark brown casts apparently composed of disintegrated epithelium.** No blood-corpuscles were observed. The specific gravity of the urine was not noted.

January 25th. He had several attacks of convulsion, in the intervals of which he lay muttering and insensible. On the following day he died.

Post-mortem Examination. The brain and its membranes appeared quite healthy. The lungs contained scattered crude tubercles, and were much engorged and carnified. The only organs decidedly diseased were the kidneys; and they presented the characteristic appearances of chronic desquamative nephritis. The cortical substance was wasted, and its surface irregular and granular. Some tubes contained an excess of cells, differing little in appearance from the normal epithelium; while the greater number of the tubes contained the same granular material, which, when washed out, had evidently formed the casts which were observed in the urine during the life of the patient. Other tubes, again, were pale and transparent, being composed only of basement membrane; the epithelial cells, which probably had first become disintegrated, having been washed away by the current of liquid passing through the tubes.

REMARKS. The preceding case is an example of the form of renal disease which is very commonly observed in gouty subjects. The blood is contaminated by certain morbid matters, as a consequence of the gouty diathesis; the kidneys make an effort to eliminate these materials; and, in doing so, their secreting cells undergo a modification. They become opaque and granular, then completely disintegrated, and subsequently are washed away, leaving the tubes denuded. After the destruction of the secreting cells, the tubes waste in consequence of the removal of the vital attractive influence of the cells upon the blood.† The cortical substance thus becomes irregularly contracted and granular.

There is one point of view in which it will be instructive to compare the case of Hobday with that of Fers. It might have happened to me to have seen Hobday for the first time as I did Fers, soon after the first attack of convulsions. The question arises—were there any distinctive signs in the two cases which would have suggested, in the one case, a much more hopeful prognosis than in the other? This is clearly a question of great practical importance, and one, too, which happily admits of a decisive and satisfactory answer. In the case of Fers, the urine contained what I have called "epithelial casts," that is, fibrinous matter entangling *entire epithelial cells;* and these, with albumen, and very commonly blood, in the urine, indicate a recent acute disease in the kidney. In such a case, there is much reason to expect recovery, if we can succeed in warding off the urgent symptoms induced by the poisoned condition of the blood, consequent on the impaired excretory function of the kidney. In the case of Hobday, the appearances were very different. The casts in the urine were composed of *granular particles of disintegrated epithelium.* My observation has taught me to associate this form of cast with a chronic disease in the kidney. Where these casts have been observed in the urine during life, the kidneys will be found after death more or less wasted, sometimes extremely so, and the tubes will be in the condition described in the case of Hobday, some being entirely denuded, and others filled either with disintegrated epithelium, or with cells differing more or less from the normal epithelium. This chronic form of disease may have advanced to the extreme stage of atrophy before the occurrence of any urgent symptoms. Amongst the most common and most serious of its ultimate consequences is an attack of convulsions, recurring more or less frequently. Now, if in a case in which convulsions have once occurred, we find the urine albuminous and containing the "granular casts" described above, we must be prepared for a recurrence of the attacks, and for the probability of a speedily fatal termination.

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* The term "granular casts" sufficiently expresses the character of these bodies.

† On this subject see the author's paper "On the Proximate Cause of Albuminous Urine and Dropsy," in volume xxxiii. of the *Medico-Chirurgical Transactions;* also on the "Inflammatory Diseases of the Kidney," in volume xxx.

I must beg my readers to bear in mind, that the preceding remarks relate to cases in which convulsions or coma, or other serious mischief, have resulted from deficient renal excretion, such symptoms affording evidence of extensive disease in the kidney, which, if it have gradually advanced to that degree by a process of chronic inflammation, is but very little under the influence of treatment. The "granular casts," *per se*, indicate merely the *form* of disease, and not the stage of its progress, or the degree of mischief which it has produced. Still the existence of these casts is a very important sign, being present from the very commencement of the chronic desquamative process. They may often be detected before the disease is so far advanced as to render the urine albuminous; and at this early stage of the disease we have most reason to expect that our remedies will be successful. Further, the proportion of this granular material in a given quantity of urine affords an index of the rate at which the disease is progressing. The granular casts are composed of disintegrated epithelial cells, which, being thus shed, appear in most instances not to be reproduced; the greater, therefore, the quantity of this material discharged with the urine, the more rapid must be the destruction of the secreting tissue of the kidney, and the more speedy will be the occurrence of urgent symptoms from suppressed secretion. In the extreme stages of chronic desquamative disease, the granular casts sometimes disappear more or less completely, and are replaced by casts of a very different kind, as will be seen in the history of the succeeding case.

It may be well to remark in this place, that there are at least two circumstances, under which the occurrence of granular casts does not indicate the chronic disease above alluded to. A moderate amount of care will, however, in either case prevent an error of diagnosis. *First*, after an attack of acute desquamative nephritis, it commonly happens that, for some days, while the urine is returning to its normal condition, casts composed of disintegrated epithelium and blood are discharged with the secretion; these gradually diminish in number, and soon entirely disappear. *Secondly*, after an attack of renal hemorrhage, some blood which has remained in the tubes becomes disintegrated and washed out in the form of granular casts, which, however, have generally a yellowish-brown blood-colour, and this would suffice to distinguish them from the epithelial granular casts. In addition to this, the occurrence of hematuria would be almost conclusive evidence of the non-existence of chronic desquamative nephritis, the extremely thickened condition of the blood-vessels in that disease rendering the occurrence of renal hemorrhage, at least in the advanced stages, a very rare accident.*

In one case of scurvy I observed yellowish-brown granular casts, which I at first supposed to be indicative of chronic desquamative disease, but which I subsequently found to be composed of disintegrated blood-corpuscles and fibrine. The man quickly recovered under the care of Dr. Todd, in King's College Hospital, and in a few days the casts entirely disappeared.

CASE III.—*Acute Desquamative Nephritis passing into Chronic Desquamative disease, with granular casts in the Urine, and subsequently a waxy deposit in the Kidney, with "Waxy Cysts" in the Urine—Scanty Secretion—Pericarditis—Pleurisy—Death.* John Revels, aged 30, a labourer, of temperate habits, but much exposed to wet and cold in his work. About seventeen years ago he was ill for a month with dropsy, but recovered completely. His present illness began about seven or eight months ago, after getting wet through while at work, and standing for some hours in his wet clothes. After this he felt "chilly and shivering, and miserable;" the breathing soon became oppressed; and he began to suffer from headache, which had continued until the present time; he had gradually grown pale and weak, and had lost flesh; there had occasionally been slight swelling of the face and hands. He had suffered much from dyspepsia, and once had bleeding from the nose to a considerable extent, since which he had discontinued his work, on account of weakness. He reported of the urine that at the commencement of his illness it was very high coloured—"like porter;" and that it was at the same time scanty; but that it soon recovered its natural appearance, and became more abundant than natural. He had sometimes got up four or five times during the night to pass water, and had passed as much as three quarts in twenty-four hours.

This sequence of phenomena is very commonly observed in cases of acute desquamative nephritis; the urine being at first scanty, and darkly tinged with blood, and shortly afterwards becoming paler and much more abundant than in health. I have suggested an explanation of this abundant secretion of urine in a paper "On the Inflammatory Diseases of the Kidneys," published in volume xxx. of the *Medico-Chirurgical Transactions.*

The preceding narrative brings the history of the patient to the 17th Nov. 1847, when he first came under my observation. It was then noted, that he was of middle height, muscular, but the muscles flabby; hair light; face and lips very pallid. He complained chiefly of weakness and slight headache; his breath was short, on making any exertion; the sounds of the heart were normal. Pulse 88; skin cool; tongue clean; no thirst: appetite good; but he was much distressed by flatulence for about two hours after eating. This is one of the most common and distressing symptoms in cases of chronic renal disease. He passed about four pints of urine in twenty-four hours, of specific gravity 1012. It deposited a rather abundant dense whitish precipitate composed of dark granular casts (probably disintegrated epithelium), with some scattered renal epithelium; there was no blood nor crystals: albumen was present in small quantity. The nature and the amount of the sediment at this time indicated rapidly progressing chronic desquamative disease.

November 20th. I admitted him into King's College Hospital, under the care of Dr. Todd. On the 24th and 26th the urine was again examined, with the same result as before.

December 11th. The urine had the same characters as before. During the last twenty-four hours he had passed four pints (16 oz.) and 4 oz. He was getting worse; his face was pale and puffed; the countenance was heavy; he complained of weakness and drowsiness, and occasionally vomited after his meals.

December 16th. I now first observed what I propose to call the "waxy casts"† in the urine, mixed with the dark granular casts before mentioned. The waxy casts were of a yellowish white colour, very much resembling wax; they had a well-defined outline, and a diameter of about 1-400th or 1-500th of an inch; they did not entangle epithelial cells; but some contained, here and there, a few small nuclei, about the size of blood-corpuscles.

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* Upon this point, see the author's paper, before alluded to, in *Med.-Chir. Trans.*, vol. xxxiii.

† The term *waxy* is applicable only to the appearance, and not to the chemical composition of the material, which is probably of a fibrinous or albuminous nature.

December 20th. The waxy casts were more numerous in proportion to the granular casts. The urine had a specific gravity of 1012; albumen was moderately abundant.

December 27th. The legs were swollen, and pitted on pressure.

January 1st, 1848. He had shortness of breath, and uneasiness about the heart. Pulse 96.

January 4th. The countenance was anxious; a loud double friction sound was heard over the heart. Pulse 120. Respiration 32. He passed less urine, perspired freely, and vomited frequently.

January 5th. Feeling that he was beyond hope of recovery, he insisted on being removed to his own house, where he gradually sank. The urine became very scanty. A catheter was once passed, under the idea that the secretion was retained in the bladder; but scarcely any was found there. At length he became delirious, and died on the 11th January.

Post-mortem Examination two days after death. The body was well formed, and muscular, very little emaciated; the skin was very pallid. The pericardium contained a moderate quantity of serum. The surface of the heart was roughened with recent lymph; the heart was larger than usual; the left ventricle was dilated, and its walls were very thick; the valves were all healthy. There was some lymph on the right pleura, in contact with the pericardium. The lungs were congested, but in other respects healthy.

Kidneys. The cortical substance was thinned and contained a yellowish-white firm, waxy material, which, on the surface, formed projecting granules, varying in size from a pin's head to a large pea. In parts where this material was most abundant, the tissue was anæmic; where it was less abundant, the vessels were congested. On the surface of one kidney there was a cyst, of the size of a large pea. Some of the tubes were crowded with epithelium, some contained granular particles of disintegrated epithelium, others were denuded; and others, again, contained the same wax-like material which had formed the casts already described as existing in the urine. At the same time I noted an appearance of fibrous tissue, which I then supposed to be the result of conversion of the basement membrane of the tubes into fibrous tissue, but which I have since ascertained to be hypertrophied arterial walls. With reference to this point I must again refer to my paper in the thirty-third volume of the *Medico-Chirurgical Transactions.*

Remarks. This case was evidently, at the commencement, one of acute desquamative nephritis. If at this time the patient had been subjected to proper treatment, which would have implied a temporary discontinuance of his work and a strict avoidance of exposure to wet and cold, there is reason to believe that he would soon have been restored to health. The poor man, however, did not apply for assistance until the disease had become chronic, and had advanced beyond the stage at which treatment could be of any avail. The most interesting point in this case is the observation of the first appearance of the "waxy" casts in the urine, their mixture with the granular casts, and subsequently the increased number of the former in proportion to the latter; their appearance in the urine being, doubtless, simultaneous with the deposit of the wax-like material in the kidney, and this material being probably secreted by those tubes which had previously lost their epithelial lining.

The following case, in some points, resembles that of Revels; but in other respects it differs materially. It possesses a peculiar interest.

Case IV.—*Numerous attacks of Gout—Chronic Desquamative Nephritis—Urine Albuminous—A very few Waxy Casts—Almost Complete Suppression—Urinary Tubes denuded—Renal Arteries and Malpighian Capillaries thickened.* Thomas Hewson, æt. 49, a coachman, had always drunk freely of porter—on an average half a gallon daily. At the age of twenty-five, he had inflammation of the chest; and during this attack he was first seized with gout in one great toe. About three or four years after this, he had a second attack; since which the attacks had returned with increased frequency, and had at different times affected almost every joint. For several years before his death, he was disabled by gout for about nine months in each year; his diet had consequently been very poor. This is one amongst a great number of instances, with which I have met, in which a labouring man has brought upon himself and his family long-continued severe suffering and privation by an intemperate use of London porter. I attended him frequently as a dispensary patient, for attacks of gout, before I had any suspicion of renal disease.

June 7th, 1849. I examined the urine. It had a specific gravity of 1015; it was pale, and deposited a very slight cloud, containing a few well-defined "large waxy casts," similar to those observed in the preceding case, but very much less numerous. Scarcely a particle of renal epithelium could be seen. The urine contained a large quantity of albumen, becoming almost solid when boiled. The patient was of rather small stature; his hair and whiskers were sandy; his face pallid; he was considerably emaciated. During the last two years, the legs had occasionally become œdematous after sitting up; and the face had sometimes been slightly swollen, but there was now no appearance of dropsy. A short time since he had an attack of gout; but he now complained chiefly of weakness, which confined him to bed. The joints were free from deposits and distortions, except a slight contraction of the fingers of one hand. His wife observed that, during the earlier attacks of gout, the urine was generally high-coloured and turbid, but that latterly it had remained pale and free from deposit. He was ordered to take small doses of tincture of sesquichloride of iron.

June 18th and 27th. The urine was examined, with the same results as before.

July 3d. During the last fortnight, he had become deaf. He was much changed in appearance; he sometimes appeared confused in his intellect; the limbs frequently moved in a chorea-like manner. He was very pale and thin, and complained of an acrid taste in the mouth. His breath was fetid; he had occasional bleeding at the nose; there was frequent vomiting. The urine was scanty; the quantity obtained was insufficient for ascertaining its specific gravity; it was highly albuminous, and threw down a rather copious dense precipitate, of a whitish brown colour, composed of numerous *waxy casts varying in diameter from* 1-375 *to* 1-750 *of an inch*. There was no epithelium, either entire or disintegrated. He was ordered to have an effervescing draught every four hours.

July 7th. He was worse; had frequent vomiting and severe headache. He had passed only about two ounces of urine during the last twenty-four hours. It was light coloured, very albuminous, and had a very slight sediment, containing traces of the same casts as before. The effervescing draughts were repeated; and a quarter of a grain of elaterium was prescribed, to be taken immediately.

July 10th. He was much the same. The urine amounted to about four or six ounces in twenty-four hours. Yesterday its specific gravity was 1016; this day it was 1019; it was pale, highly albuminous, and had a very scanty sediment, with traces of the same casts as before.

July 14th. He was much the same, but more exhausted, and very pallid; the skin was cool. He became suddenly faint; and died soon after my visit, retaining his consciousness and power of speech until within a few minutes of his death.

Post-mortem Examination on the fourth day after death. The weather being warm, and putrefaction having commenced, the kidneys were removed by an opening in the abdomen; no other parts were examined. Both kidneys had much the same appearance. Their size was rather less than normal; one weighed 3¼ oz. The surface was smooth. In the cortical substance of one, there was a cyst about the size of a horse bean. They were slate-coloured, from incipient decomposition. The chief structural change visible to the naked eye consisted in the absence of the usual lobular appearance on the surface. The cortical substance was rather thin; but an unpractised observer might have pronounced the kidneys healthy. On a microscopic examination, the Malpighian bodies appeared very conspicuous, while the tubular structure was confused and indistinct. After the addition of acetic acid, the tubes became much more distinct; many were denuded and atrophied. Scarcely one could be seen with the normal epithelial lining; some contained oil; others, brown granular particles of disintegrated epithelium; and a very few contained the white waxy material, which had formed the casts observed in the urine during life. In consequence of the atrophy of the tubes, the Malpighian bodies seemed relatively more numerous, and closer together than ordinary; they were not perceptibly enlarged; one of the largest measuring 1-75th of an inch. The Malpighian tufts were of a dull white colour: the surface of the vessels was smooth, their coats thickened, their canals clearly visible in many instances, especially after adding acetic acid, which also brought into view the blood-corpuscles in their interior. The coats of the arteries were hypertrophied; and the canal of one contained some small masses of oil.

REMARKS. There can be little doubt that the morbid process in the case of Hewson was essentially the same as in that of Revels; and that the urine, if examined at an earlier period of the disease, would have presented the granular casts, which an examination of a great number of cases of this disease has shown to be quite characteristic. In this case the desquamative process had continued until nearly all the tubes had lost their epithelial cells; and, then, as a necessary consequence, secretion was almost completely arrested. There was one remarkable difference between the two cases; the wax-like material, which was deposited so abundantly in the kidneys of Revels, was, in the case of Hewson, only just sufficient to afford the data for a correct diagnosis and prognosis.

Immediately after the case of Hewson, another essentially like it occurred to me in a woman named Brooks. The urine had the same characters, and contained the peculiar large waxy casts. The kidneys presented the same general and microscopical appearances.

When the urine is pale, and of rather low specific gravity, containing a large quantity of albumen, with a scanty sediment, composed of the peculiar large waxy casts, as before described, with little or no epithelium, either entire or disintegrated, it may be almost certainly inferred that the chronic desquamative process has destroyed the secreting cells of the kidney; and that if urgent symptoms of suppressed secretion are not already present, they will very speedily appear.

I have several times spoken of the waxy casts as being "large," and I have given the diameter of those observed in the urine of Hewson. My reason for doing so has been, that as the diameter of these casts was equal to the average diameter of healthy kidney tubes, *their size was sufficient evidence that the tubes in which they had been moulded had no epithelial lining, and were composed only of basement membrane,* as the post-mortem examination of the kidneys proved to be the case.

I will now give the particulars of a case in which what I propose to call "*small* waxy casts" were observed, and which formed the ground of a favourable prognosis, which the result proved to have been correct.

CASE V.—*Intemperate Habits, with an insufficiency of Nutritive Food—General Dropsy—Ecthymatous eruption over the body—Urine highly albuminous, and containing "small waxy" Casts—Recovery.* George Henry Lewis, aged 45, of intemperate habits, much reduced in circumstances, and latterly living very badly, was admitted into King's College Hospital, under the care of Dr. Budd, on the 6th June, 1849. He was suffering from general anasarca and ascites in a very great degree, and his body was covered with an ecthymatous eruption. He was very pallid; his breathing was difficult, and accompanied by a wheezing sound. The dropsy had appeared two weeks before, and the eruption a month earlier. The sounds of the heart were normal. The urine was scanty, rather light coloured, somewhat cloudy, of specific gravity 1012, becoming almost solid with albumen when boiled. After standing it deposited a pretty abundant whitish dense precipitate, chiefly composed of *transparent waxy casts, about one-thousandth of an inch in diameter.* Very few epithelial cells were seen, and no blood-corpuscles, or very few.

Few, probably, who saw the miserable condition of this poor man at the time of his admission, would have given a favourable prognosis: but after a microscopical examination of the urine, I ventured to suggest to my friend Dr. Budd the probability of his patient's recovery, for the following reasons. The appearance of the casts seemed to indicate merely congestion of the Malpighian capillaries, and an absence of disease in the epithelial cells. The diameter of the casts proved that they were moulded in canals lined by epithelial cells; in this respect forming an instructive contrast with the casts in Hewson's case. The almost entire absence of epithelial cells from the urine showed that the secreting structures were but little involved; since any morbid matter in the blood, injuriously affecting the secreting cells, would have produced a desquamation of these structures. The inference was that the blood was in such a morbid state as produced congestion of the Malpighian capillaries, while it affected but slightly, if at all, the secreting cells of the kidney. As a consequence of the congestion, coagulable matter with serum escaped from the Malpighian vessels, and, after being moulded in the tubes, was washed out with the urine, forming the "small waxy casts" already described.

He was first put on milk diet, and was ordered to have a tepid bath every morning, and to take small doses of solution of citrate of ammonia, with fifteen minims of ipecacuanha wine every six hours. He began to improve almost immediately. It may be well to mention here, that for several years he had been subject to epileptic fits, which returned with increased frequency while he was suffering from the dropsy.

The urine was frequently examined, and its condition carefully noted. The albumen continued very abundant for about six weeks. The quantity passed in twenty-four hours did not exceed one pint when he was first admitted, but soon became more abundant, and for some days exceeded the normal quantity. Thus, on the 18th June, it measured five pints. In this increased flow of urine, following upon a scanty secretion, the case resembled one of acute desquamative nephritis.

June 25th. It was now first noted that some of the casts entangled a few oil-globules, and here and there appeared a cell containing oil. These appearances continued for about three weeks, and occasioned some anxiety lest the kidneys should undergo fatty degeneration; the more so as the albumen was still very abundant.

About the middle of July, the oil was evidently diminishing, and the casts were less numerous; but the albumen was as copious as at the commencement. The specific gravity of the urine was 1014.

July 26th and 27th. The albumen was reported to be much less, so that there was scarcely more than opalescence when the urine was boiled. The urine was clear; there was no cloud or sediment after standing, nor anything visible by the microscope. In the mean time, the eruption and the dropsy had entirely disappeared, his appetite and strength had returned, and the pallor of his face had been replaced by a healthy hue. Since the 26th June he had been taking steel, sometimes in the form of citrate, and occasionally in that of tincture of the sesquichloride.

July 30th. He was progressing favourably; had improved in all respects. The bowels were regular; the tongue clean; he slept well. The urine was scarcely albuminous.

August 1st. He left the hospital without leave, and has not since been heard of.

Remarks. It is instructive to compare the history of this case with those of Revels and Hewson. In appearance, the condition of Lewis, when he first came under observation, was much more desperate than that of the other two. The microscope was the only means of determining that the probability of recovery in each case was precisely the reverse of that which, to a superficial observer, it might appear to be.

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19. *Diagnosis of Fatty Degeneration of Kidney.*—[Dr. Geo. Johnson makes the following remarks on the Diagnosis of Fatty Degeneration of the Kidney;—one of the most intractable, and unhappily one of the most frequent of the forms of renal disease.]

The urine, in cases of fatty degeneration of the kidney, has characters sufficiently distinctive to render the diagnosis a matter of ease and certainty. It is commonly of a rather pale, yellowish colour. When first passed, it is clear; but, after standing for some hours, it usually deposits a light, cloudy sediment; sometimes, in the early stages, the urine has a dark smoky colour, from containing blood. The quantity secreted is less than normal, and its density in most cases exceeds the healthy standard; it is by no means unusual to find the specific gravity ranging from 1025 to 1030. The albumen is generally very abundant, so that, when boiled, the urine becomes almost solid. On a microscopic examination of the cloudy sediment before mentioned, there may be seen transparent casts of rather small size, in many of which are entangled oil-globules of various sizes, also cells containing oil-globules in greater or less abundance. There are besides scattered cells, more or less completely filled with oil. I might transcribe from the pages of my note-book many cases, in which the urine has presented more or less of the characters here described, and in which not one of the patients has recovered. The majority of these cases have terminated fatally; while, in a few instances, the symptoms continue in a greater or less degree; the urine continuing highly albuminous, and presenting unequivocal microscopical evidence of the true nature of the disease. For the purposes of prognosis, it is as important to distinguish between a case in which the urine presents the characters here described, and a case of simple desquamative nephritis, as it is to distinguish tubercular disease of the lung from acute pneumonia or bronchitis.

Now, since the prognosis in a case of confirmed fatty disease of the kidney is thus unfavourable, it is important that all who examine the matter should clearly understand that albuminous urine may contain a certain amount of oil, entangled in fibrinous casts, or enclosed in epithelial cells; and yet the disease may be of a simple nature, and may speedily terminate in recovery. It is very common to find small quantities of oil in the casts and in the cells, after a simple inflammation of the kidney has existed for three or four weeks. Now, since an inflammatory disease does in some instances become chronic, and terminate in confirmed fatty degeneration, the appearance of any oil in the urine must occasion a certain degree of anxiety, lest it should increase in quantity, and take the place of the simple inflammatory products. In the case of Jervis, it will be remembered that oil was seen in the casts and in cells, that it continued for several days, and then entirely disappeared simultaneously with a rapid decrease in the quantity of albumen. The following brief notice of a case will serve as an example of what may frequently be observed.

Acute Desquamative Nephritis, with general Dropsy—Urine scanty, highly albuminous, and containing fibrinous Casts, Epithelium, and Blood—subsequently oil in the Casts and Cells—Complete Recovery. John St. Ledger, aged 49, a billiard-marker, applied to me at the Dispensary on the 12th April, 1847, and gave the following account of himself. During the period of Lent, he had fasted very rigidly, *i. e.* during four days in the week he took only one meal a day, composed of fish, with milk and potatoes; during the remaining three days he took animal food as usual, perhaps rather in excess. Under this plan of diet he found himself getting thin and weak, and he became very dyspeptic and flatulent after his meals. On Easter Monday, April 5th, he felt drowsy, and had muscular pains. The next day, dropsical swelling appeared, and the urine was very scanty. He continued to get worse until the 12th April, when he first came under my notice.

There was then slight general dropsy, headache, and drowsiness; the urine was scanty, high-coloured, and very albuminous. It presented the characteristic appearances of simple acute desquamative nephritis; containing fibrinous casts, entire epithelial cells, and blood-corpuscles. During the first few days he was much benefited by cupping, warm baths, purging, and diaphoretics.

A careful microscopical examination of the urine was made almost daily. Its characters remained the same until the 29th April, when, for the first time, it was seen that many of the epithelial cells contained oil-globules. At that time, I knew much less of the history of this disease than I now do; and I quite despaired of my patient's recovery. Day after day the oil was visible, some cells being completely filled with it; but, at the same time, *by far the greater number of cells were entirely free from oil*, and this is the circumstance which, with my present knowledge of these cases, would have suggested to me a favourable prognosis. Early in the month of May the dropsy disappeared, but the patient continued very weak and pallid.

May 6th. He began to take a draught three times daily, consisting of diluted nitric and diluted hydrochloric acids, ten minims of each, in infusion of quassia.

May 31st. The above medicine was discontinued, and he took an ounce of compound mixture of iron three times daily. Soon after the change of medicine, he began to gain strength, and to improve, in every way, very rapidly.

June 14th. The quantity of urine was three pints in twenty-four hours; of specific gravity 1017; the colour was natural, the albumen much diminished. It contained a few casts, with epithelium more or less disintegrated, and scarcely a trace of oil.

At the beginning of July, the urine was free from albumen, and presented no trace of oil, but a very few casts with disintegrated epithelium; he was gaining strength, and was much improved in appearance. Once after this, there was a temporary return of albumen, but it soon disappeared, and he completely regained his health and strength. He has occasionally since been under my care for trifling ailments; I have several times examined the urine, and have found it, in every respect, quite healthy.—*Lond. Journ. Med.*, Feb. 1851.

20. *On a Species of Atrophy of the Spinal Marrow.* By Dr. NAMIAS.—A woman, æt. 48, was admitted into the Venice hospital, who had suffered from paralysis of the lower extremities during three years, of the origin of which she could give no account. She possessed no voluntary power over them, and the upper extremities were also in a state of semi-paralysis and constant flexure. She was submitted to electricity during three months, and recovered power sufficient to enable her to walk slowly about the ward, the flexure of her fingers continuing. Some months after, her power again declined, but she was again improving under the use of electricity, when she was eventually carried off by diarrhœa in the cholera season.

At the *post-mortem* examination, the spinal marrow was found flaccid; and hollowed out in its substance was a cavity extending from the first cervical vertebra to within two fingers' breadth of the *cauda equina.* A catheter of medium size could enter this cavity, which occupied the centre of the medullary cord, the absence of the central gray matter giving rise to its production. Cruveilhier has noticed this absence of gray matter in children dying with spina bifida; and Morgagni relates the case of an adult, in which the cavity was large enough to admit the end of the little finger, but extended for a far less distance than in the present case.

Dr. Giacinto Namias observes, in reference to the improvement of the paralyzed limbs which resulted from the use of *electricity* in this case, that it is only one out of many examples of such improvement being produced even in cases wherein serious organic lesion existed; so much so, that by its patient and *prolonged* employment, voluntary movement has often been procured in cases in which the causes of the paralysis were absolutely irremediable.—*Rev. Med.-Chir.*, viii. p. 133.

The important resources derivable from the persevering use of galvanism, in cases of paralysis which have resisted all other means, have been frequently demonstrated by M. Duchenne, who, having had the principal hospitals of Paris freely thrown open to him during the last five or six years, has acquired a remarkable dexterity in its application. As he is about to publish a work upon the subject, detailing the results he has attained in respect to the diagnosis and treatment of the different forms of paralysis, we will only state here, that his plan consists in *localizing* the galvanic action upon the different muscles, which, by the employment of moistened excitors of a great variety of form and size, he believes he can do with the greatest nicety. He has derived few satisfactory results from *indirect muscular galvanization*, or acting upon the muscles through their nervous trunks. When he wishes to localize galvanic action upon the *skin*, he previously dries it with an absorbent powder, and passes over the surface dry metallic excitors, the sole result being the various degrees of sensation according to the intensity of the currents and duration of the intermissions.—*British and Foreign Medico-Chirurgical Review*, January, 1851, from *Archiv. Générales*, tom. xxiii. p. 420.

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21. *Vaccination as a Preventive of Small-pox.*—Dr. ALEXANDER KNOX concludes a highly interesting paper on the existing state of our knowledge of vaccination and revaccination as preventive of small-pox (*Lond. Journ. Med.*, Dec. 1850), with the following practical deductions, suggested by a careful reconsideration of the subject, and which are well calculated to reassure confidence in the protective influence of cow-pox.

"1. It appears to have been satisfactorily demonstrated, that secondary vaccinations have succeeded in a considerable proportion of the cases in which they have been resorted to.

2. It also appears that small-pox has prevailed of late years to an increased extent.

3. The results in question have been attributed, partly to a diminution of energy in the vaccine infection, caused by repeated transmission through the human subject, and partly to the alleged tendency of the immunity conferred by cow-pock, to wear out of the system, after an uncertain period from the date of vaccination.

4. Both the success of revaccination, and the increased prevalence of casual small-pox, appear, however, to have been exaggerated in the popular belief; and, at any rate, the facts seem explicable, in a great measure, without resorting to the hypothesis just stated, by attributing them in part to the imperfect performance, or the entire neglect of vaccination; in part to the temporary tendency to increased diffusion, at distant and uncertain periods of time, which characterizes all epidemic diseases; and, finally, to peculiarities of constitution, which render many individuals absolutely insusceptible of being protected against a secondary attack, either by vaccination or by inoculated or natural small-pox.

5. It has been proposed to re-introduce variolous inoculation as a certain remedy for the occasional failure of vaccination; but the superior efficacy of the practice is not only questionable, but its indiscriminate employment has been proved to be dangerous, and destructive of human life, and is therefore highly to be deprecated.

6. Revaccination, however, may be prudently recommended, not only as innocuous in itself, but also, on various grounds, as positively advantageous, even by those who question the gradual extinction of the protective influence of cow-pock.

7. It does not appear that genuine vaccination has lost any of the efficacy which at any time really appertained to it; and it still remains to be demonstrated that it is not capable of conferring, to the end of life, complete immunity from the horrors of small-pox, on a large majority of all the individuals fully submitted to its influence.

8. Even where vaccination fails to prevent a secondary attack, the consecutive disease, in general, assumes a mild and modified form, although, in some instances, it may be sufficiently severe to leave the countenance marked with scars, and still more rarely to terminate in death: but fatal cases from secondary small-pox do not seem to be more frequent after vaccination than after a primary attack of the natural disease.

9. On the whole, it is respectfully maintained that cow-pock, imparted in the most efficient manner of which it is capable, by vaccination, and, under certain circumstances, by revaccination, is the most eligible safeguard within our power against small-pox; and that it will prove effectual in most constitutions, not inherently insusceptible of protection, by any means whatever."

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22. *On Vaccination and Revaccination.* By M. CRANINX.—An interesting discussion has lately taken place, at the Belgian Academy of Medicine, upon the subject of vaccination. The following were the conclusions of M. Craninx, the reporter, which were affirmed by the academy: 1. Variola and varioloid

are but degrees of the same affection. 2. Simple variola may attack the same individual twice, but scarcely ever in rapid succession (*coup sur coup*). 3. It may also attack persons who have been properly vaccinated, but it is then generally mitigated. (M. Lombard observed that the word "generally" must be dwelt upon; for subjects who, to all appearance, have been well vaccinated, at a distant period occasionally die from variola. He added, that in the dreadful epidemic which has just devastated Liege, this was the case, while none of those who underwent revaccination took the disease.) 4. Variola, after vaccination, is almost without example within the next ten years; but it is observed from time to time in those who have been vaccinated for more than twenty years. It is, however, very rare after forty. 5. It is of more frequent occurrence, but, at the same time, milder, in the vaccinated, than in persons who have already undergone an attack of it. 6. Varioloid is observed oftener than variola after vaccination, and is not unfrequently observed in children; but it increases both in frequency and severity from ten to twenty-five or thirty years. 7. Variola and varioloid in the vaccinated, not following the same course in respect to frequency or intensity as in the non-vaccinated, the cases in which they are seen among the former cannot all be explained upon the supposition of a faulty vaccination, but upon that of a diminution of the preservative action of vaccination. 8. Perhaps we should admit incomplete vaccinations possessed of a less degree of preservative power, and capable of becoming sooner exhausted. In this point of view, sufficient importance is not attached to the general reaction which should accompany the vaccine eruption, indicating the action of the virus upon the general economy. 9. If the protective power of vaccination has become enfeebled by time, if not in all, at least in several individuals, there is not sufficient evidence to show that the vaccine, considered in itself, has lost its efficacy since the first years of its discovery. While there is doubt, it is better to revert to the cow-pox whenever the opportunity presents itself. (Upon this resolution, M. Seutin remarked that, believing as he did, that the vaccine lymph which existed is efficient, and that it fails either from not having been taken well, or owing to individual susceptibilities, he considered this conclusion would spread needless alarm. M. Lombard observed, however, that the new cow-pox, recently imported from England, certainly exhibited a more certain and more active effect.) 10. As the immunity conferred by vaccination is not indefinitely absolute, revaccination, at least for a great number of individuals, is rationally indicated. 11. Observation shows, that when it succeeds, the second vaccination produces phenomena very nearly like the first, so that we would, *à priori*, anticipate the same effects from it. 12. Experience has determined this point: it has proved that a recent revaccination preserves from variola and varioloid, and that, practiced on a sufficient scale, conjointly with vaccination, it constitutes a sure means of arresting the progress of this malady when it appears epidemically. 13. It succeeds best in proportion as it is most required, that is, the more remote the period is since the individual has had variola, or has been vaccinated. 14. If it does not succeed at a first attempt, it should, if necessary, be repeated several times. 15. During the prevalence of an epidemic of variola or varioloid, it is prudent to revaccinate all those whose first vaccination dates ten years back, and all those whose first vaccination gives rise to any doubt. 16. Revaccination may be performed almost indifferently with the lymph of a primary or a secondary vaccination. 17. It is imprudent to inoculate with the lymph of spontaneous varioloid; nevertheless, in the time of an epidemic, if vaccine lymph could not be possibly obtained, we should be authorized in the employment of this fluid, and to transmit it as we do vaccine lymph. 18. If revaccination is so useful a thing, at least for a certain number of persons, vaccination loses none of its importance; and the government and the profession should exert all their influence to enable the entire population to participate in its benefits.—*Gazette Médicale de Paris*, No. 27.

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23. *Results of Revaccination in the Prussian Army during* 1849.—During the year 1849, there were 51,637 individuals revaccinated, of whom 39,116 had

distinct cicatrices of the former vaccination, 8706 had these in an imperfect condition, and 3815 were destitute of them. The vaccination

Pursued a regular course in	30,457
An irregular one in	8,467
And failed in	12,713
Succeeded on repetition in	2,862

Thus, then, of the 51,637 vaccinations, 33,319 were quite successful; vesicles running a normal course being produced. This proportion, amounting to 64 per cent., is nearly 1 per cent. more than was obtained in 1847 and 1848.

Of the different forms of variolous disease which appeared in the army throughout 1849, only 62 cases occurred, and were distributed as follows:—

	In persons not revaccinated.	Revaccinated without success.	Revaccinated with success.	Total.
Varicella	2	6	5	13
Varioloid	14	17	9	40
Variola............	6	2	1	9
	22	25	15	62

In almost every case the disease ran a mild course, and frequently was quite insignificant. One case only was fatal. A recruit vaccinated when a child had not yet been revaccinated, and died on the 10th day.—*British and Foreign Medico-Chirurgical Review*, January, 1851, from *Med. Zeitung*, 1850, No. 19.

24. *Abortive Treatment of Variola by the Application of Collodion.*—Collodion has been found useful in arresting the course of traumatic erysipelas and of herpes: and the *Bulletin Général de Thérapeutique* for Oct. 30, 1850, contains an account of a case occurring in the practice of M. Aran, which seems to show it to be an efficient agent in producing abortion of the variolous pustules. We abridge the account given.

Case. A young man, aged 19, was admitted into the Hôpital Bon-Secours, in Paris, with confluent small-pox in an early stage. The face was thickly covered with small pustules, and there was already intense swelling and redness. The fever was very moderate. M. Aran applied a layer of collodion over the face, to produce abortion of the pustules. In two days, the lips, and lobes of the ear, which had not been covered, showed well-developed pustules; while scarcely anything could be seen through the collodion, and, on raising it, the pustules were found arrested. The collodion having become accidentally removed in parts, the exposed portions of the face, in fifteen or eighteen hours, presented well-developed pustules. It was again applied, and constantly watched, to prevent the patient from tearing it off during his delirium. On the eighth or ninth day from the first application of the collodion, it began to fall from the eyebrows, leaving them of a rose colour, without any scars. On the following days, the collodion fell from the other parts of the face, together with the desquamated epidermis. The skin of the face appeared as if it had undergone desquamation after erysipelas. On the other parts of the body, the eruption, which had been very confluent, had left numerous spots and scars. The general condition of the patient was most satisfactory.

Collodion seems to act as a mechanical constringent of the tissues. This view is supported by the fact that, in the latter days of the suppurative stage, the pustules were seen to appear at the edges of the layer, and to raise it, while nothing of the kind was observed elsewhere. M. Valleix has also used the same remedy in a case of *variola discreta*, with perfect success; and in a case of non-confluent small-pox, M. Aran has procured the abortion of almost all the pustules on the face, so as to render it extremely difficult to find a mark.—*London Journ. Med.*, Jan. 1851.

25. *Combination of Auscultation and Percussion.*—Dr. Roger has called attention to a process, first pointed out by Laennec, in which percussion and auscultation are combined. A solid cylinder of cedar-wood is used for auscultation, while a person well versed in percussion practices it round the stethoscope,

and in the entire extent of the region to be explored. In this manner, we can not only determine the limits of an organ, as of the heart, liver, spleen, or veins, but also those of the cavity which contains any of them.

This process, though possessing incontestable advantages, is opposed by two serious inconveniences. The first is, the dexterity required to enable us to appreciate the result. M. Roger was six weeks in acquiring this power. The other objection is, the difficulty of introducing into private practice, especially in the country, a process which requires the aid of a second person. The method, however, would be valuable in cases of difficult diagnosis, and in which great precision is required in determining the therapeutic indications. —*London Journ. Med.*, Dec. 1850, from *Comptes-Rendus de la Soc. Méd. des Hôpitaux*, April, 1850.

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26. *On Auscultation in the Pneumonia of Infants.* By MM. Trousseau and Lasègue.—The authors preface their essay by some observations upon auscultation of infants in general, which they consider to be far more difficult than is usually supposed. The restlessness and cries of the child confuse the results; and the small space to be operated upon, with the inconvenient position to be assumed, prevents the prolonged examination which is necessary. When we are in no doubt as to the nature of the disease, its limits often cannot be ascertained, for an abnormal sound, whensoever it may arise, is heard all over the chest. Both normal and abnormal sounds are, therefore, best heard where the ear can be most conveniently placed, namely, *opposite the subscapulary fossa.* From the *resonance* of the cry little is to be learned, and the *souffle* of the child is indistinct. The comparative exaggeration and feebleness of the respiration in different parts of the chest are seldom to be observed, and the exaggerated sound of one lung when the other is bad—puerile respiration—is comparatively wanting in the child. Most is to be learned from the *râles.* The *crepitant* is very rare, and has not the fineness or the dryness of that of the adult, the *subcrepitant* and *sibilant* being those usually present. Their temporary absence does not indicate the absence of lesions, for the subcrepitant *râle* may cease for minutes or even hours, and return again, no apparent cause for the oscillations being observable.

The pneumonia of infants is never an original affection, being always preceded for a longer or shorter time by bronchitis; and it is very important to seize the point of transition of the one into the other, as the implication of the parenchyma so much adds to the danger. Bronchitis may exist only for a short time, or for months, before being followed by pneumonia. Indeed, there are two forms of it; one in which *pneumonia necessarily follows*, and the other in which it is a mere *coincidence.* In the first case, there is much more fever present than the local symptoms seem to warrant, and the cough is dry without *râle*, the first sound that is heard being the subcrepitant *râle* of the pneumonia, two or three days after the bronchitis has existed. In the other case, the catarrh passes through its usual stages, having the large mucous or sibilant *râles* present, the subcrepitant *râle* appearing suddenly among these, and not the one gradually becoming fused into the other. In general, the sibilant *râle* gives way to a mucous one of short duration, prior to the occurrence of the subcrepitant rhonchus. Whenever bronchitis, characterized by cough and fever, does not manifest its auscultatory signs, pneumonia is imminent; but when mucous or sibilant *râles* have been heard for some time, the subcrepitant *râle*, when it occurs, has no longer the same importance. Sometimes, indeed, the subcrepitant *râle* is never present, the *souffle* alternating with the mucous. In other cases it may accompany the disease in all its stages; and in some that run a rapid course, especially in rickety children, the disease may terminate fatally without any other having become developed. Whenever it ceases completely, without being replaced by any other form of rhonchus, the general symptoms still continuing menacing, the augury is very bad. If, on the other hand, it persists, though the respiration be easier, the fever less intense, and the countenance less anxious, the amelioration cannot be relied on, for it is only a truce. This *râle* is larger, the more superficially the affected lobules are situated, and is smaller when they are more central. When the hepatized tissue is found highly coloured, it has persisted to the last; but when this is pale, it has usually given way, prior to death, to other signs. It is no measure of the more or less advanced stage of the lesion.

The *souffle* in hepatization, at first soft and veiled, becomes eventually almost as distinct as in the adult, being either accompanied by the subcrepitant *râle*, or alternating with it. It may disappear for short intervals, and undergoes some change from posture. It is one of the most certain signs of the disease, and if the patient dies without its being developed, this is because his prior state of health or some other general accident has complicated the case. It indicates that hepatization occupies an extensive portion of the parenchyma; and by practice its intensity becomes a measure of this. Neither it nor the subcrepitant *râle* indicates the degree of the change, though they may its extension—different parts of the lungs, in fact, undergoing simultaneously a very different degree of change. The *souffle* appears early in that form of the disease in which contiguous inflamed lobules unite and invade a whole lobe or contiguous lobes; while in the form in which the hepatized lobules are dispersed over almost the entire lung, so as to unite nowhere into such large masses, although constituting a great aggregate, the *souffle* appears later.

As in the adult the sign of improvement is a returning crepitation, so is the returning mucous *râle* in the infant, displacing the *souffle* and subcrepitant *râle*, though it may reappear without the intervention of this last.

All the auscultatory phenomena are never entirely wanting during the whole course of the disease, but any one of them may be so, even in cases of such severity as to lead to the full expectation of their presence.—*British and Foreign Medico-Chirurgical Review,* January, 1850, from *Archiv. Générales,* t. xxiv. pp. 130-42.

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27. *Local Paralysis in Infancy.*—Dr. Simpson called the attention of the Edinburgh Obstetrical Society to the frequency of local paralytic attacks during infancy and childhood, and pointed out the following circumstances as the most important points in their history:—

1. The paralysis most frequently seems to affect a single limb—as one leg or one arm—sometimes a few fingers only; occasionally it appears in the form of hemiplegia, affecting one whole side; sometimes in the form of paraplegia. Dr. S. mentioned a case in which the paralysis occurred in early infancy, and affected both lower extremities, the left upper extremity, and the left side of the face, the child, now several years old, being very acute and intelligent. 2. The side of the face, but more particularly the upper and lower extremity, when paralyzed in infancy, do not grow in relative proportion with the corresponding healthy parts; so that, when the individuals affected reach adult life, the paralyzed extremity appears small, diminutive, and shorter than natural. 3. The paralyzed limb does not appear to want sensation, and the motory muscular power, although greatly diminished, is not entirely abolished. When the local paralysis is seated in the leg, the person hence usually walks imperfectly, throwing out the foot at each step with a flap-like motion, and often with the toes or external surface of the foot somewhat drawn in, as the leg is each time extended. 4. The disease generally comes on during the first three years of life, and especially during the currency of that morbidly irritable state of the nervous system which co-exists with teething. Dr. S. had seen an instance in which two children of the same family were affected within a week of each other. 5. The disease generally supervenes very suddenly, sometimes in the course of a single night, and is often, at the time of the attack, accompanied with little or no constitutional derangement; but occasionally it comes on with a fit of convulsions or other symptoms of some temporary cerebral derangement. 6. The affection is frequently first noticed immediately after fever, especially after the eruptive fevers; and occasionally it comes on during the period of convalescence from them. Dr. S. described a case of paraplegia in a child three years old, which came on during the convalescence from scarlatina—the patient going to bed apparently well, and waking paraplegic, and astonished at her own want of power of movement in both her legs. Intestinal irritation in some cases appears to be the exciting cause. 7. When the patients do not recover from

the paralysis within a few days after the attack, under antiphlogistic measures (when the state of the system has allowed them), and careful correction of the condition of the intestinal canal and other functions, the paralytic affection almost always proves chronic, and, indeed, permanent. Dr. S. had seen counter-irritation to the spine, galvanism, &c. &c., employed, but without success. He had seen three instances in which small and long-continued doses of nux vomica had appeared to act beneficially in diminishing the state of paralysis. Keeping all the functions of the body as near the standard of health as might be, friction and bathing of the affected limbs, and inculcating as much muscular exercise of them as possible, seemed to be the principal indications of treatment, when the disease had already passed into the chronic type. 8. The true pathology of the disease was as yet little known, though the affection was of frequent occurrence. No autopsic investigations appear to have been made with the view of ascertaining the state of the brain, spinal cord, and nerves, in the local paralysis of infancy.—*Monthly Journal of Medical Sciences*, Jan. 1851.

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28. *Recent Epidemic of Scarlatina at Berlin.*—Dr. Helfft states that the scarlatina which has lately prevailed epidemically in Prussia, and other parts of Germany, has presented several anomalous features, which he deems it his duty to lay before the profession.

In many cases all the symptoms of scarlatina except the eruption were noticed in members of the same families among whom the fully developed disease was present.

In very many patients the disease assumed a malignant character; and here the surface was pale, or the skin presented a dark purple colour, and in others was studded with petechiæ. In these cases the temperature of the surface of the body was much lower than natural. The pulse was small, frequent, and sometimes intermittent. The fauces were of a dark red colour. The tonsils presented deep ulceration, by which they were partially or totally destroyed. Diphtherite was frequently observed, spreading over the upper part of the pharynx and the fauces, extending to the Eustachian tube and the posterior nares, and accompanied by a copious acrid and fetid discharge from the mouth and nostrils. The tongue, at first of a dark red colour, its papillæ enlarged, soon became covered with black sordes, which also coated the lips. The lymphatic glands in various regions of the body were swollen and inflamed; those of the neck were swollen in every case; and sometimes the inflammation of these glands proceeded to suppuration and wide-spreading ulceration, extending into the pharynx and adjoining parts. Inflammation of the conjunctiva, with ulceration of the cornea, was noticed in some cases. Œdema of the integuments and effusion into the cavities were seldom met with. In one case hemorrhage from the nose, mouth, and intestinal canal occurred; and in all the worst cases the evacuations were of a black or dark green colour. The urinary secretion was suppressed in the beginning of almost every case; towards the close, however, it passed involuntarily. In one case, in which after death distinct degeneration of the kidneys was found, no albumen could be detected in the pale and copious urine; its sp. gr. was 1010.

The kidneys in almost every case were found enlarged, or acutely inflamed; but the granular or Bright's disease was not observed. The liver was paler than natural. In one case the spleen was observed of a yellowish colour, and infiltrated with pus. In another case, attended with swelling of the upper extremities, the glands of the axilla were found enlarged and containing pus. The lungs were free from disease. The pleuræ presented ecchymoses. Various pathological changes were found in the intestinal canal, *e. g.*, softening of the mucous membrane, ulceration of the mucous membrane of the ileum, paleness of the membrane in other portions of the intestines. In most cases the ileum and colon were of a dark colour, varying through several shades, from green to deep black.

The treatment, at first of a tonic character, was not successful; a change to small doses of calomel, as advised by some English authors, was found very serviceable. Subsequently when hemorrhages occurred, bark and acids were employed. Nitrate of silver was applied to the local diseases.—*London Med. Gaz.*, Dec. 1850, *Zeitschrift für die Gesammte Medicin.*

29. *Cretinism.*—A recent communication on this subject by M. Boudin, founded on the report of the Sardinian Commissioners, is published in the *Archives Générales*, September, 1850. This commission defines cretinism to be "a degeneration of the human species, which manifests itself in different parts of the globe, and characterized by idiocy, more or less pronounced, associated with malformation of the body." It has been observed in Europe in the Alps, the Pyrenees, the Jura, the Hartz, and the Carpathians; in America, in the Cordilleras; in Asia, in the Himalayas; and in the mountainous districts of Tartary.

Sometimes the affection appears at birth, but generally no sign of the cretin appears till subsequently. The stature is seldom over four feet, many do not surpass three feet six. They are generally thin, with tawny skin, and a countenance expressive of a brutal deficiency of intelligence. The head is misshapen and out of proportion; the muscular strength is below par; the articulation imperfect. The cretin has few diseases; pellagra is, however, not unfrequent in the valley of the Po.

As far as the commission could gain information, season had no influence on the propagation of cretins. Other statistical facts, of more or less interest, are as follows:—

Cretinism declared itself—

Between	birth	and the age of	2	years in	4,440
"	2	"	5	"	187
"	5	"	12	"	202
"	12	"	20	"	31
Above	20	"	—	"	28

In goitrous cretins, the goitre commenced—

Between	birth	and the age of	2	years in	2,333
"	2	"	5	"	199
"	5	"	12	"	419
"	12	"	20	"	31
Above	20	"	—	"	28
Age not specified		"	—	"	711
					3,912

In analyzing these and other tables, the commission have ascertained that hereditary influence is not powerful in the production of cretinism, as out of 8,000 families of cretins, not more than 300 parents were the subject of the malady.

In reference to the locality, the commission have established that deep, narrow, and tortuous valleys abound the most with cretins, and that the villages in which they reside are remarkable for the abundance of stagnant water. They have also made out that the water is highly charged with lime, and deficient in iodine and bromine.

The commission have determined that the eradication of cretinism is best effected by the following hygienic precautions: To drain the valleys; to cut down unnecessary trees, so as to allow a free circulation of air; to furnish a purer water; to insist upon houses being built on sanitary principles. To encourage a meat diet, and the liberal use of salt; to prevent, as far as possible, the marriages of cretins, scrofulous and rickety persons.—*Provincial Med. and Surg. Journ.*, Jan. 22.

30. *Causes and Cure of Goitre.*—The number of persons affected with goitre in France amounts to about four hundred and fifty thousand; the number of cretins is little less than thirty-five thousand to forty thousand. As there can be no reasonable doubt that both affections depend upon circumstances capable of being modified by hygiene, the French Government, following the laudable example of the Sardinian authorities, have appointed a commission to inquire

into the causes which may give rise to goitre, and into the best means of preventing or curing this unsightly disease. The following *resumé* of the opinions entertained by the commission may be useful to place on record, although it would seem that they have been rather exclusive in attributing the development of the malady to a single cause.

The first care of the commission was to construct a geographical map of goitre; to study the nature of the soils in which the disease is endemic; and to analyze the food, drink, &c., of such localities as compared with the aliments in neighbouring districts free from the complaint.

"It was soon ascertained that the existence of goitre bore no relation whatever to latitude, climate, elevation of residence, poverty, or other depressing causes; but the chemical examination of the fluids employed as drink lead to a remarkable conclusion. It is this: 'that goitre depends on the presence of magnesia in the food or drink, joined with the absence of a sufficient quantity of iodine to serve as an antidote.' These two conditions are essential for the development of the disease.

A mere inspection of the maps of localities affected with goitre, and of geological maps, suffices to prove that the disease prevails endemically in magnesian formations. This fact is admitted by the most distinguished geologists—M. Elie de Beaumont, in France; M. Studer, in Switzerland; M. de Sismonda, in Piedmont. In every locality in which goitre prevailed as an endemic disease, the commission found a notable quantity of magnesia in the substances used for food or drink. In certain localities infested by the disease, although the formation is not magnesian, a large proportion of magnesia was found in the water drawn from the wells, as at Neris and Landisay.

This general fact is further corroborated by others of a particular kind. In the goitre countries it is a common habit for young men, who desire to escape serving in the army, to drink several pints of a certain kind of water daily; they soon become attacked by the disease and escape the conscription. Now, these waters are strongly charged with magnesia. On the other hand, families, which take care to drink no other fluid than rain water, invariably escape; and it is well known that the water derived from the icebergs never gives goitre.

This latter fact has been applied in practice with the best effects. Many localities have been completely relieved from the disease by substituting the use of rain water for well-water. In the town of Montmeillan, for example, goitre has almost completely disappeared since the inhabitants have been induced to drink nothing but rain water.

A second important point established by the French Commission is, that a small portion of iodine, if taken daily with the food, acts as a preservative against goitre. Common sea-salt always contains a certain proportion of iodine, but not enough. From ten to fifty parts per thousand are required, and the commission are of opinion that, if this proportion of ioduret of potassium were mixed with the salt used for food in goitre localities, the development of the disease would be completely prevented. Of course, if the people could be prevailed on to drink nothing but rain water, the chief cause of the disease being removed, success would be much more certain. It is calculated that the general use of this ioduretted salt, in the goitre countries, would not entail an annual expense of 320*l.*

Dr. Grange, indeed, has employed this simple method with the best effects during the last eighteen months. Goitre has been banished from every family which consented to employ the ioduretted salt in a persevering manner. At the expiration of a few months, not a single individual remained affected, although every member of the family, from five years of age, had been previously afflicted with the disease. This is a most encouraging result, and a great triumph for medicine."—*Med. Times*, Nov. 16, 1850.

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31. *Chloroform in Lead-Colic.*—Dr. Aran has published, in the *Bulletin de Thérapeutique*, for Oct. 15th, 1850, the results of his experience in the use of chloroform as a remedy in lead-colic. The following are his conclusions:—

There can be no doubt as to the possibility of very soon curing lead-colic, by the internal and external use of chloroform. The advantages of this treatment are striking. Lead-colic is eminently a painful affection; chloroform removes the pain. The disease is probably dependent on intestinal spasms, which tend to produce the characteristic obstinate constipation; chloroform calms the spasms. It does not, indeed, cause the lead to be evacuated from the system; but, by the employment of sulphur and alkaline baths, the skin is freed from the metal; and the same effect is produced on the intestines by enemata. No inconvenience is likely to arise when the evacuations are re-established slowly and with difficulty, from the use, for some days, of castor oil or some other mild purgative. Drastic purgatives frequently increase the colic, and even produce vomiting, when given before the pains are calmed and the evacuations re-established. Chloroform, applied principally externally, immediately calms the pains, and facilitates the use of purgatives, if it be found necessary to employ them.

The mode of external application, adopted by Dr. Aran, is to pour from one to two drachms of chloroform on a wet cloth, and keep it applied to the abdomen for a quarter or half an hour. He also gives it in mixture; and in enemata, preceded by a common injection. It is on the local application, however, that he seems to place most reliance. The enemata have sometimes appeared to increase the pain.

32. *On the Treatment of Itch.* By MM. Bazin and Bourguignon.—M. Bazin, physician to the St. Louis, in a recent report, furnishes an account of the trials he has made of the various means of treating the itch, and of the definitive results he has arrived at. He states that, at the time of his appointment in 1847, the medium time occupied in treating the disease by the *sulphuro-alkaline ointment* applied to the wrists and insteps, together with sulphureous baths and fumigations, was fourteen days; but that since he has caused the *entire body* to be well rubbed with it (rubbing with extra force those parts the acari specially infest), the patients are dismissed cured in two or three days. Some practitioners who have adopted the plan have erred in its application by leaving some portions of the body unrubbed, or by continuing the friction as long as any itching was perceived. In the first case the disease reappears; while in the other, by prolonging the frictions beyond the time necessary to destroy the acari, and the vitality of their ova, other eruptions are induced which give rise to great itching. This itching and eruption, occurring after the employment of two complete frictions, furnish an indication to desist instead of to continue; and if they do not then disappear, they may be relieved by tepid baths.

There are cases, however, in which, from the existence of great abundance of pustules, the sulphuro-alkaline ointment would excite too much pain, or in which the patients have such an invincible repugnance to its smell, that we should resort to some other substance; and M. Basin finds, by numerous trials, that the *lard* and *oil*, which form the base of all antipsoric preparations, if employed in general frictions, either together or separate, will effect a cure, only from four to six, instead of two, frictions being required. Another ointment recently tried, containing *chamomile*, cures in three frictions, soothes the itching instantly, and does not give rise to any secondary eruption. It is composed of equal parts of fresh chamomile, olive oil, and lard.

M. Bourguignon, in his recent prize essay, prefers the *staphisagria* to any other remedy. He adds 300 parts to 500 of lard, stirring the powder into the boiling lard, and keeping up a temperature of 100° C. for twenty-four hours. After straining, a little essence may be added. Baths should be taken before and during the treatment, and the frictions should be made four times a day, the cure being completed by the fourth day.—*British and Foreign Med.-Chirurg. Rev.*, Jan. 1851, from *L'Union Médicale*, 1850, Nos. 82, 135. *Journal de Chimie Méd.*, No. xi. p. 671.

33. *Disease of the Heart and Chorea.*—M. Trousseau frequently points out to his class the correlation so often observed between disease of the heart and chorea; so that examination of this organ, and inquiry into the history of the case as regards rheumatism, should never be neglected. Such correlation supports the views of those who regard the disease as rheumatic or rheumatoid;

and indeed if this were not its nature, how can we explain that a disease which induces such marked disturbance of different parts of the nervous system, even to the intellect itself, should be so completely curable?—*British and Foreign Medico-Chirurgical Review*, January, 1851, from *Gaz. des Hôp.* No. 86.

34. *Sulphate of Zinc in Chorea.*—Whilst visiting the medical wards of Guy's Hospital, we have often noticed the success with which sulphate of zinc is administered in cases of chorea; and although we are aware that the profession have been made acquainted with the power of zinc in chorea by the able paper of Dr. HUGHES, in the *Guy's Hospital Reports* for 1846, we put the following cases upon record, that the continued good results of this mode of treatment might be extensively known. Before entering into details, we shall just quote from Dr. Hughes's digest a few facts connected with the use of zinc in the convulsive disease under consideration.

"*Zinc.*—This metal has been more largely administered than any other. In all cases, with the exception of two, which were successfully treated by the oxide, the sulphate has been in the form in which it was prescribed. The dose has been increased up to thirty-six grains three times a day. It has not often caused sickness. The stomachs of some persons, however, appear unable to bear it, even in small doses; and in others the organ rebels against the increase after a certain number of grains has been attained. Zinc was prescribed in sixty-three cases. Of these it effected a cure in forty-five, or seventy-one per cent.; it relieved in two; it failed to effect a cure in sixteen, or twenty-five per cent. In seven of the forty-five cases iron had previously failed; the zinc was given together with iron in one, and with the administration of electricity in five cases."

It will thus be seen how trustworthy a remedy is the sulphate of zinc in this disease; still, as chorea, independent of its connection with rheumatism, often arises from imperfect nutrition, it might be the case that the improved diet, rest, and comforts which the patients experience in the hospital, had some share in the amendment. We should not omit to state that we heard Dr. Golding Bird maintain in the wards, a few days ago, that zinc has a peculiar and specific influence on the nervous matter, in about the same manner as iron on blood.

The first case, the notes of which were taken by Mr. H. B. Wood, refers to a little boy eight years of age, very weakly and strumous-looking, who was admitted into Job Ward Oct. 11, 1850. He had had frequent attacks of croup, and never enjoyed robust health. About three weeks ago, whilst going to school, he was frightened by a bullock, and a few days afterwards he began to exhibit strange contortions of the body, which went on increasing in frequency and intensity up to his admission. The poor little patient was in fact constantly in motion, except when asleep. When examined, he was found very thin; skin hot and dry, and pupil dilated. The intellect was quite clear; the tongue red and injected, and protruded in a quick, sharp manner, but withdrawn quietly. The articulation was considerably affected. Pulse 76, sharp, very irregular in rhythm, with systolic murmur under the nipple. Respiration very irregular in frequency; bowels open; and appetite inclined to be voracious. The involuntary muscular twitches of all the extremities are constant.

Purgative doses of mercury with soda were administered, and a few days afterwards the patient had sulphate of zinc, galbanum pill, and extract of hyoscyamus, of each two grains, in the form of pill, one to be taken morning and midday. The sulphate was increased by half grains every other day, and on the sixth after admission the systolic murmur had decreased, and the movements were less convulsive. Wine was ordered on the fourteenth day, and on the seventeenth the patient was reported as improved in every respect; the heart's action was more regular, and the muscular contraction of the limbs hardly noticeable, except the patient became excited. On November the 3d, the twenty-second day after admission, the little boy was beginning to feed himself; the hands were getting steady, and the respiratory movements, as well as the action of the heart, more regular. On the thirty-ninth day he could almost command the use of his limbs, taking, at the time, eleven grains of the sulphate per diem; and he was discharged December the 9th, about two months after admission, walking without any involuntary muscular contraction, and in good general health.

The notes of the second case were taken by Mr. Oddling. The patient is a little boy six years and a half old, who was admitted into Job Ward November 19, under the care of Dr. Addison. He is a child of fair, florid complexion, and light brown hair; has always enjoyed good health up to a month ago, when, having been sent to a shop with money which he lost on his way, he returned home very much frightened, and on the next day strange movements were first observed. We may mention in this place that fright has certainly a large share in the causes which produce chorea; and if we turn to Dr. Hughes's excellent paper, we find the following passage on the subject: "*Fright.*—It appears to be generally acknowledged in the profession, and it is very commonly assumed by parents, that fright is a very frequent exciting cause of chorea. As far as the table may be trusted—and as regards the particulars enumerated I believe it may entirely be trusted—this very common opinion appears to be correctly founded." The patient had never had rheumatism. We are aware that this is not the place for entering upon the consideration of the connection which has been traced between chorea, rheumatism, and heart-disease; but we shall just quote, from the *Guy's Hospital Reports* of 1846, Dr. Hughes's opinion on the subject. "*Rheumatism.*—Next to fright, rheumatism may be regarded among the most common causes of chorea. The connection between the two diseases has been often noticed, and the frequent concurrence of spasmodic affections with pericarditis, which, in the great majority of cases, is of rheumatic origin, has been particularly illustrated by Dr. Bright, and more recently by Dr. George Burrows. It appears at least doubtful whether, in most of such cases, there exists anything more than a sympathetic affection of the spinal marrow, seeing that after the removal of the rheumatic affection the chorea is usually curable by the same remedies which are found available in cases of chorea having a different origin." Dr. Hughes states that from his table rheumatism was the cause of chorea in the proportion of fourteen per cent.

On admission it was found that the head and all the limbs were constantly being tossed in every direction; there was difficult articulation, but the convulsive movements were pretty similar in amount on either side of the body. The mind was clear; the boy never had a fit; the respiration was normal; the tongue clean; the appetite good; bowels costive; and the urine normal. The first sound of the heart was accompanied by an abnormal bruit, but the rhythm otherwise regular, and the skin moist and supple.

Dr. Addison ordered a purgative dose of scammony and mercury, and soon afterwards one grain of sulphate of zinc, to be taken three times a day. On the third day the dose was increased to one grain and a half, and on the tenth day the convulsive movements had considerably diminished, the abnormal condition of the heart was disappearing, the general health being very good. The dose was now increased to two grains and a half three times a day. On the twentieth day the movements were but very slight, and the cardiac bruit had materially decreased; the patient now took four grains at the same periods. On the twenty-fourth day five grains were ordered; and on the twenty-sixth day after admission the boy was discharged without a vestige of choreic movements, though there was still a slight murmur accompanying the systole of the heart.

We lately noticed, in Job Ward, a third case, which has so remarkably improved, that we annex a short sketch of it from Mr. Wood's notes, though the little patient is not yet quite well. This boy is fifteen years of age, and was admitted under the care of Dr. Barlow, December 18th, 1850. He is the son of a stonemason; has been subject to ulcers on the extremities and pains in the head, but never had a fright, fall, blow, or rheumatism. For the last six months he has been engaged as waiter, with a great deal of work up and down stairs, never going to bed before twelve o'clock. He was at last obliged to leave his situation, with pains in the back and head, and difficulty of walking. His manner was at the same time altered; he would, without any apparent cause, burst out crying or laughing, and make contortions in the face, which, with twitchings of the limbs, became worse and worse, the articulation growing indistinct at the same time.

On admission he was found to be a strumous boy, of light complexion, and vacant expression of countenance, the whole frame being affected with convulsive movements, which every second caused the whole frame to be tossed in different directions. The tongue was protruded with difficulty, and it was almost impossible to understand what the patient wished to say. The right side of the body is worse than the left, and when the boy is spoken to or looked at the paroxysms are frightful. Appetite voracious; slight pain in the head; skin hot, but pliable; pulse frequent and irregular; tongue injected round the edges, but creamy in the centre. The patient sleeps badly, but the action of the heart and lungs is healthy. After a smart purgative, Dr. Barlow ordered half a grain of sulphate of zinc to be taken three times a day. On the third day this was increased to one grain; on the eighth to two grains, and thus the doses were increased by one grain every other day. The boy is now taking five grains three times a day, and is almost well. As he was accustomed to take much malt liquor, Dr. Barlow allowed him a pint of porter per diem.—*Lancet*, Jan. 11, 1851.

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35. *On the Treatment of Obesity.* By T. K. Chambers, M.D.—That form of disease which commences at birth, and goes on increasing during infancy and childhood, is, I believe, so invariably fatal before the age of puberty, that I do not think we have reason for hoping that it is in any way amenable to medicine. At all events, I have not been able to discover any one whose experience has led him to pronounce it curable. It is a form of monstrosity; and as the subjects of it commonly display some other bodily malformation, and a deficiency of intellect, their death is a relief from a miserable prospect.

When it begins in childhood, or about the time of puberty, we must not be deterred by the circumstance of its being hereditary from attempting to remedy the inconveniences arising from it. We cannot truly reduce our patients entirely to the average size and weight, but we may enable them to pass life in comfort and usefulness.

The later the disease commences, the more controllable it is by management, until the middle period of life is passed, and then old age impedes in some degree the benefit which we may confer, not by rendering our measures inert, but by preventing our employing them quite so actively as we should have done earlier.

The first thing indicated in all cases is to cut off, as far as possible, the supply of material. Fat, oil, butter, should be rigorously interdicted in the diet table. But all eatables contain some portion of oleaginous matter, and especially those most convenient to advise the use of for a lengthened period. And almost all are capable of a transformation into fat, when a small quantity of this substance is previously present. It is desirable, therefore, that the mass of food should lie in the stomach as short a time as possible, in order that at least a fatty fermentation may not be set up in it. Very light meals should be taken at times most favourable to rapid digestion, and should consist of substances easy of solution and assimilation. To this end, the time of the meals should be fixed for an early hour in the day, before exertion has rendered the powers of the entrails languid and weak. Breakfast should consist of dry toast, or what is still better, sea-biscuit; and if much active exercise is intended, a small piece of lean meat. Dinner at one, on meat with the fat cut off, stale bread or biscuit, and some plain-boiled maccaroni, or biscuit-pudding, by way of second course.

Liquids should be taken, not at the meal, but half an hour after, so as not to impede the action of the gastric juice upon the mass. Here should end the solid feeding for the day; no second dinner or supper should follow, nor, indeed, any more meals be taken sitting down. A piece of biscuit and a glass of water can be taken standing up, if faintness is experienced; a cup of gruel or roast apple before going to bed.

This is not a scale of diet by any means unattainable. A butcher and retired pugilist has adopted it for some years with the greatest comfort to himself. He is able, upon it, to work in the most violent manner in a small garden which he cultivates for himself in the suburbs. He has reduced himself from 20 to 17 stone; whereas his brother, who has not the same strength of mind, has increased to 23 stone in weight. Persons of more refined education ought, and often do, practice the same self-imposed restraint more easily. J. R. has reduced himself from 22 to 18 stone, and sometimes brings himself down to 17, but finds that he derives no particular advantage from being of the lower weight.

The smallest amount of nutriment consistent with the health of the individual can be found by experiment only; but we need not fear that ten ounces of solid food a day is too little, for the last-mentioned gentleman confined himself for a long period to that quantity, and found his mental and bodily powers always equal to the strain which the pursuit of a laborious profession in London demands. It may be remarked, by the way, that it is often advisable to add a small allowance of malt liquor at dinner, as otherwise the craving of the appetite is less easily appeased. The beers to be avoided are of course the thick, sweet kinds, but that which is thoroughly fermented, at a low temperature, in the Bavarian way, seems to contain very little injurious matter.

I do not know that any advice concerning sleep is peculiarly applicable to obese persons, beyond what we should recommend to all classes of men. A draught of morning dew, "nocturni roris auram ante solis ortum bibendam," which Aurelian prescribes for the corpulent, is equally beneficial to every one. They are usually uneasy sleepers, and though lethargic, by no means averse to early rising.

In cases where the fat is largely accumulated in the omentum, it is very convenient for the patient to wear a band round the abdomen, which may be tightened gradually. The support thus given to the abdominal muscles relieves the dragging sensation in the loins, which many persons, whose viscera are heavy in proportion to their strength, experience. It enables exercise to be taken with more facility, and appears also, by pressure, to afford some assistance to the absorption of fat.

The above remarks will apply equally to all forms of obesity; the abstinence recommended can be borne even by the aged, and only comfort be experienced.

As respects exercise, however, a distinction requires to be made. The young and vigorous, whose obesity does not prevent the use of their legs, cannot employ them more usefully than in walking as long as they are able. The greater number of hours per day that can be devoted to this exercise, the quicker will be the diminution of bulk. But as riding, by the gentle shaking of the abdomen, excites the secretions of the digestive organs more, it should, where practicable, be employed in addition. Where freedom of motion has once been gained, rowing, shooting, any or all of the forms of British gymnastics, should be adopted as regular habits.

But in the asthenic form of the disease, especially in elderly people, this is scarcely practicable. The defect in muscular power prevents the use of the limbs in walking for a long time enough to be advantageous. But where riding can be managed, it should on no account be omitted, and the suspensory belt before mentioned is often a valuable auxiliary to the employment of this exercise.

The ancients were much more in the habit than we are of using various forms of friction to the skin in treating chronic complaints; and we find in Aurelian a recommendation to the corpulent to employ dry rubbing, either with cloths alone, or with the addition of various powders. Modern habits of cleanliness supersede, in some degree, these remedies. But the skin is not unfrequently greasy from a thick sebaceous secretion, and the circulation through it languid in asthenic obesity, and in these cases horsehair gloves may be used with great advantage. Dr. Flemyng strongly advises friction to be employed to the trunk of the body as promoting absorption and invigorating the surface. The Greek additions of cold bathing or sponging, especially with sea water, the vapour or hot air bath, followed by rubbing with salt or with sand, and many other modifications of the same principle enumerated by Aurelian, will naturally suggest themselves to every intelligent patient. The same author very sensibly advises these remedial measures to be employed fasting, and no food to be taken for some time afterwards, and modern habits render before breakfast a convenient time. To these rules of management, medicines, strictly so called, must be viewed as secondary and auxiliary. Unless these laws are obeyed, pharmacopœias are useless.

Purgatives I have generally found not needed in the plethoric form; the bowels usually act once or twice in the day. But in the asthenic obesity *of old people*, where the abdominal walls are weakened by long pressure of an unnatural weight, it is necessary to employ them.

But there is one class of medicines so universally applicable to *all* cases of obesity, that I think a trial of them should never be omitted. The chemical affinity of alkalies for fat point them out as appropriate alteratives in this complaint, and experience proves that they are suitable to the state of the digestive organs. The most eligible one is liquor potassæ, and it may be administered in much larger quantities than any other. If given in milk and water, we may safely commence with half a drachm and raise the dose to a drachm and a drachm and a half three times a day. The milk covers the taste of the potash better than any other vehicle. It has truly the advantage of saponifying a portion of the remedy, but there is no evidence to prove that its efficacy is thereby endangered; indeed soap itself has been strongly recommended. A physician, whose case is recorded by Dr. Flemyng, reduced himself, by Alicant soap alone, two stones in weight.

I have often given the above-mentioned doses of liquor potassæ (even to children in cases of scrofula and consumption) without any harm arising from its use, when taken, as desired, in milk. The fear of alkaline medicines has probably arisen from the injury observed by Huxham to follow the use of Mrs. Stephen's saponaceous mixture, at one time so popular, and therefore often misapplied. The injury appears to have originated from their having been employed in improper cases, such as debilitated gouty subjects, chronic stone in the bladder, and the like, to which, of course, much harm would be done.

A poor woman, who sold eggs in Chelsea, was becoming quite unable to gain her livelihood by her ordinary occupation. I have not kept a note of her weight and height, and therefore she is not mentioned in the table of cases, but she was extremely obese, and the cause of a variety of symptoms she complained of seemed traceable entirely to the accumulation of fat. By taking liquor potassæ only, without change of diet, she was reduced so far as to carry on her trade with comfort.

Another case was communicated to me the other day, of a gentleman who weighed 19 stone 7 lbs. By regimen, exercise, and liquor potassæ, he was reduced two stone and a half in six weeks.

I have mentioned bleeding, and perhaps that may cause some surprise, after the observations which have been made on the state of the circulation in fat people. But where distinct signs of plethora are present—such as pain over the eyebrows, beating of the temples, restless sleep by night, lethargy by day, with full lips and an elastic skin—it is capable of being employed with safety; and where it is employed, the advantage derived at the commencement of a course of treatment is very great, for it gives all the other remedies a fair start; and by affording immediate relief to many symptoms, gives the patient a favourable opinion of the plan he has undertaken.

On the other hand, it is scarcely necessary to say that much risk attends the loss of blood; for if the heart has become atrophied and weak, it will not stand the shock. Venesection may cause either sudden death, from failure of the heart's action, or effusion of blood in the brain, from disturbance to the circulation.

Bitter tonics are often of great advantage in enabling the stomach to digest more easily and rapidly, and therefore to be contented with a smaller quantity of really nourishing food. The increase of appetite which they cause does no harm; for when patients are getting better, they are usually more obedient to their medical man, and can be taught to control it. Gratitude for the benefit they have received makes them glad to follow advice, however hard.

Some medicines must now be mentioned, which have been recommended for the cure of obesity, but which analogy and experience do not approve.

Vinegar has been employed by those who are foolish enough to practice upon themselves; but as it produces thinness only by injuring the digestive organs the benefit is not worth the price paid for it, and no medical man would ever advise the use of such a remedy.

Iodine has been spoken of as likely to do good, from the power it exhibits of stimulating the absorbents in cases of scrofula and tumours. But its moderate use certainly does not cause the disappearance of healthy fat. Indeed it has been noticed by Lugol, and is matter of daily observation at our metropolitan hospitals, that patients frequently acquire a considerable degree of embonpoint during the time they are taking iodine. The cases of tumours and of fat are very distinct. As Dr. Pereira remarks, "The enlargements which these agents (mercury and iodine) remove, are not mere hypertrophies; their structure is morbid, and they must in consequence have been induced by a change in the quality of the vital activity; in other words, by morbid action. Medicines, therefore, which remove these abnormal conditions, can only do so by restoring healthy action." But the action which causes the deposition of fat in the adipose tissue is, though excessive, of a healthy nature, and harm, rather than benefit, is to be expected from the medicine under discussion; that harm which always accrues from a valuable remedy wrongly employed.—*Lancet*, 1849.

SURGICAL PATHOLOGY AND THERAPEUTICS, AND OPERATIVE SURGERY.

36. *Case illustrating the Difficulties of Diagnosis of Morbid Growths from the Upper Jaw.* By Prescott Hewett, Assistant-Surgeon, St. George's Hospital. (*Proceedings of Royal Medical and Chirurgical Society*, Dec. 10, 1850.) [The following case is not only interesting as illustrating the difficulties of diagnosis in morbid growths from the upper jaw, but also from the discussion to which its reading gave rise, having elicited the opinions of some of the most eminent men in the profession, relative to the use of anæsthetics, the patient having died on the table, and his death having been caused, there is reason to believe, by the chloroform administered. Though long, we republish the report entire as given in the *Lancet* (Dec. 28), and bespeak for it an attentive perusal.]

The patient, a man aged twenty-five, was admitted into St. George's Hospital, under the care of Mr. P. Hewett, in May, 1848, with a large tumour, of an irregular shape, occupying various regions of the left side of the face. Presenting every appearance of having originated in the antrum, this tumour was found in the front and back part of the cheek, in the temporal fossa, in the orbit, and in the nostril, extending to the back part of the pharynx; round in shape, but lobulated; it was firm and elastic to the touch, perfectly movable, and, in the nostril, of a dead white colour and glistening appearance. The skin, conjunctiva, and mucous membrane of the nose were quite healthy, and no enlarged glands could be detected in any part. The history of the case was, that six years previous to his admission into the hospital, the patient was troubled with a disease, supposed to be a polypus of the nose, which had been easily removed with the forceps; subsequently, however, the cheek began to swell; and the tumours gradually made their appearance in the regions in which they were found; all this had occurred without pain, and with very little inconvenience. A year ago caustic had been extensively applied in two different places, large cicatrices making the spots. This treatment had produced no effect on the disease, and no fungating growths followed the application. At different times, there had been extensive bleedings from the nose, which had somewhat reduced the patient. At a consultation of the surgeons of the hospital, it having been resolved that, in all probability, the disease was of the fibrous kind, and connected with the antrum, the removal of the upper jaw was decided upon, Dr. Snow, to whom the surgeons of St. George's are so much indebted for the able manner in which he for a long